BEFORE THE PUBLIC UTILITIES COMMISSION
OF THE STATE OF CALIFORNIA

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Application of SAN DIEGO GAS & ELECTRIC COMPANY (U902E) for Approval of SB 350 Transportation Electrification Proposals	Application 17-01-020 (Filed January 20, 2017)
And Related Matters.	Application 17-01-021 Application 17-01-022

OPENING COMMENTS OF NATURAL RESOURCES DEFENSE COUNCIL, PLUG IN AMERICA, THE COALITION OF CALIFORNIA UTILITY EMPLOYEES, SIERRA CLUB, ENVIRONMENTAL DEFENSE FUND, UNION OF CONCERNED SCIENTISTS, GREENLOTS, SIEMENS, AND EMOTORWERKS ON PROPOSED DECISION AUTHORIZING STANDARD REVIEW TRANSPORTATION ELECTRIFICATION PROPOSALS

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INTRODUCTION AND SUMMARY OF RECOMMENDATIONS

In accordance with Rule 14.3 of the Rules of Practice and Procedure of the California Public Utilities Commission (Commission), the Natural Resources Defense Council (NRDC), the Coalition of California Utility Employees (CUE), Plug In America, Sierra Club, Environmental Defense Fund (EDF), Union of Concerned Scientists (UCS), eMeter, a Siemens Business (Siemens), Greenlots, Electric Motor Werks, Inc. (eMotorWerks), American Honda Motor Co. Inc., General Motors LLC, and the Alliance of Automobile Manufacturers submit the following comments on the proposed decision (PD) of Administrative Law Judges Sasha Goldberg and Michelle Cooke in Application (A.) 17-01-020 et al. Note: CUE fully supports Sections I, II, and III of these comments and is filing separate comments regarding SDG&E's residential charging program discussed in Section IV. General Motors LLC, American Honda Motor Co. Inc., and the Alliance of Automobile Manufacturers, representing light-duty vehicle manufacturers, fully support Sections I, II, and IV of these comments, but take no position on the medium and heavy-duty vehicle charging programs discussed in Section III.

We suggest the following modifications to the PD to better align with the goals and requirements of Senate Bill (SB) 350:

- Because evaluating four larger programs will require less resources as a percentage of the total budget than evaluating 16 pilot programs, the Commission should reduce the budget set-aside for program evaluation by approximately $11.3 million.
- It should be clarified that customers using non-standardized electric vehicle supply equipment (EVSE) will still be eligible to participate in the Southern California Edison (SCE) and Pacific Gas & Electric (PG&E) medium and heavy-duty vehicle make-ready infrastructure programs.
- To reflect the reality that SCE's service territory is home to a significantly larger volume of freight and goods movement and some of the worst air quality in the nation, the budget of SCE's medium and heavy-duty program should be increased to $305 million.
- *Per se* reasonableness for SCE and PG&E's medium and heavy-duty vehicle programs should be based upon the number of medium and heavy-duty vehicles (which provide the air quality benefits), not the number of sites, which could vary

significantly depending upon factors that cannot easily be determined in advance and that do not affect the associated air quality benefits.

- Consistent with Public Utilities (PU) Code § 701.1, Commission precedent, the record, good accounting practices, and to motivate utilities to pursue transportation electrification, the option for customers to assume title to make-ready infrastructure constructed and installed by SCE and PG&E should be removed, restoring regulatory certainty that the utilities' will earn an authorized rate of return on capital investments made by the utilities.
- The optional "Grid Integrated Rate," which furthers the renewable integration goals established by SB 350, should be restored for the San Diego Gas & Electric (SDG&E) residential charging program because, as the experience with similar VGI rates in-use in SDG&E's Power Your Drive program demonstrates, customers will not be required to manually respond to the dynamic nature of that rate to maximize fuel cost savings and improve the utilization of the grid.
- Consistent with PU Code § 701.1, to ensure successful program implementation, to prevent utilities from focusing exclusively on "steel-in-the-ground" investments going forward, and to meet the goals established by SB 350 and SB 32, the Commission should adopt a performance-based incentive mechanism for SDG&E's residential charging program. This would set a productive precedent in California and beyond for utility investments to accelerate transportation electrification. In the alternative, if the Commission is not willing to adopt the performance-based incentive suggested in these comments, it should at least adopt a percentage-based earnings opportunity, akin to what was suggested by the Utility Reform Network (TURN).

With the modifications to the PD summarized above and described in greater detail below, we recommend the Commission authorize the standard review transportation electrification programs.

I. PROGRAM EVALUATION SHOULD LEVERAGE ECONOMIES OF SCALE TO AVOID THE UNCESSARY EXPENDITURE OF CUSTOMER FUNDS

D. 18-01-024 authorized 16 "priority review" pilot projects and set aside four percent of the total authorized budget, resulting in a collective program evaluation budget of $1.6 million

for the 16 pilots. The PD applies D. 18-01-024's same percentage-based set-aside to the four standard review programs, resulting in a total program evaluation budget of $22.7 million. The PD's approach fails to account for that fact many program evaluation costs are fixed and do not scale with program size, and for the fact it should cost relatively less to evaluate four programs than it costs to evaluate 16 programs.

Failing to account for economies of scale and for the fact four times fewer programs need to be evaluated in this instance could result in the unnecessary expenditure of customer funds that would be better spent on investments that accelerate transportation electrification. In fact, the PD would establish a budget for program evaluation that is *larger* than the budget it would authorize for PG&E's Direct Current (DC) Fast Charging make-ready program (which is likely too small for the reasons discussed in Section II). Consistent with D. 18-01-024's directive for the utilities to "capture economies of scale" in program evaluation, the PD should recognize that evaluating four larger programs will require relatively fewer resources than evaluating 16 pilot programs. We suggest the Commission set aside two percent of authorized budgets for program evaluation, and re-purpose the resulting savings in programs that accelerate transportation electrification. Specifically, resulting savings should be used to help restore funding needed for SCE's medium and heavy-duty vehicle program, as discussed in Section III.

II. PG&E DC FAST CHARGING MAKE-READY PROGRAM

The PD's rejection of calls to reduce the size of PG&E's proposed DC Fast Charging program is well-founded. The program is not too big. In fact, recent analysis conducted by the California Energy Commission (CEC) and the National Renewable Energy Laboratory (NREL) demonstrates much more will need to be done to meet the goals established by SB 350 and Executive Order Executive Order B-48-18, which includes the following operative provisions:

> *IT IS HEREBY ORDERED that all State entities work with the private sector and all appropriate levels of government to put at least 5 million zero-emission vehicles on California roads by 2030.*
>
> *IT IS FURTHER ORDERED that all State entities work with the private sector and all appropriate levels of government to spur the construction and installation of 200 hydrogen fueling stations and 250,000 zero-emission vehicle chargers, including 10,000 direct current fast chargers, by 2025.*

The 10,000 DC Fast Charging stations included in the executive order (which implies roughly 4,000 stations in PG&E service territory) corresponds to the low estimate included in the CEC/NREL report, "California Plug-In Electric Vehicle Infrastructure Projections: 2017-2025 Future Infrastructure Needs for Reaching the State's Zero- Emission-Vehicle Deployment Goals."[1] The higher estimate from that report is that 25,000 DC Fast Charging stations will be needed by 2025, which equates to approximately 10,000 DC Fast Charging stations in PG&E territory alone. In sum, according to the CEC/NREL report, to meet the state's goals, roughly 4,000-10,000 DC Fast Charging stations will be needed in PG&E territory by 2025, which dwarfs the gap of 754 stations upon which the PD relies in rejecting calls to scale back PG&E's program. In conclusion, the PD is right to reject calls to scale back PG&E's program; much more will need to be done in PG&E territory and beyond to meet California's goals.

III. SCE AND PG&E MEDIUM AND HEAVY-DUTY VEHICLE CHARGING PROGRAMS

A. It Should be Clarified that Customers Who Need Non-Standardized EVSE to Charge Medium and Heavy-Duty Vehicles Will be Eligible to Participate in the SCE and PG&E Programs

The PD appears to inadvertently characterize SCE's program as requiring customers who use non-standardized EVSE to pay for that EVSE *and* for the make-ready infrastructure as well:

> *For market sectors where there is no standard charging equipment, SCE proposes that customers could participate in the program, but would be responsible for the full cost of buying and installing the proprietary or made-to-order EVSE and make-ready.* [2]

SCE's testimony states that customers whose medium and heavy-duty vehicles require non-standardized EVSE would be required to pay for that non-standardized EVSE, but would still be eligible to receive make-ready infrastructure:

> *For those segments where no charging equipment meets established standards, SCE plans to work with customers to evaluate the equipment that meets the customer's needs. If SCE approves the proposed equipment, the customer would*

[1] We recommend the Commission take judicial notice of this state agency report, which is available at: http://docketpublic.energy.ca.gov/PublicDocuments/17-ALT-01/TN222986_20180316T143039_Staff_Report__California_PlugIn_Electric_Vehicle_Infrastructure.pdf

[2] PD at 87.

be authorized to participate in the program, but would be solely responsible for the cost of the charging equipment and its installation.[3]

Were such customers ineligible for make-ready infrastructure, they would not be able to participate in the SCE and PG&E make-ready infrastructure programs. Given the fact standardized EVSE is not available in many medium and heavy-duty vehicle segments, the implementation of the PD's characterization of SCE's testimony would severely limit the ability of the SCE and PGF&E programs to meet the vehicle segment goals included in the PD. Deleting the phase "make-ready" in the body of the decision and in the corresponding Conclusion of Law, as suggested in Appendix A, would easily correct this apparent error.

B. *Per Se* Reasonableness Should be Based on Vehicles, Not Sites

We appreciate the regulatory certainty the PD aims to provide by its inclusion of a list of metrics to determine *per se* reasonability, but specifying a minimum of 700 sites could lead to perverse outcomes.[4] The 700-site number is simply a planning assumption used by PG&E, and should not be construed as a prediction tied to program performance. A more cost-effective program could enroll less than 700 sites, but use more charging stations per site, or use higher-powered charging equipment capable of serving more vehicles per station and site. There is a lot of variability in the medium and heavy-duty vehicle space; the optimal mix of sites and installation characteristics remains to be seen. In any case, it would be better to focus on the number of vehicles, because it is vehicles that provide the air quality and GHG benefits, not the sites themselves.

C. The Commission Should Adopt a Larger Budget for SCE's Program to Address the Disproportionately Larger Air Pollution Problem and Goods Movement Network in SCE Territory

The PD's "Table 7" uses identical site and sector assumptions for SCE and PG&E service territories to develop identical budgets for each utility. This approach does not reflect the physical realities of the two very different service territories, which is partially why SCE requested a budget of $554 million. SCE's budget should be increased from the PD's $200 million to $305 million to reflect the fact its service territory is home to the largest goods movement network and dirtiest air in the nation.

[3] Exhibit SCE-1 at 55.
[4] PD at 86.

Southern California is the "international gateway" for trade, where the Port of Los Angeles and the Port of Long Beach, the two busiest ports in the nation for containerized goods, see a combined 40 percent of the nation's containerized goods.[5] SCE serves the Port of Long Beach and its service territory surrounds the Port of Los Angeles, meaning that most of the goods that flow through the Port of Los Angeles eventually end up on a truck driving through SCE territory. The pollution generated by this trade creates a triple threat for the health of local communities. First, diesel emissions from port operations are toxic and significantly harm communities closest to the source of pollution. Second, the combustion of fossil fuels by port serving vehicles and equipment emit large quantities of NO_x pollution, which contributes to regional air pollution problems like ozone and fine particulate matter. Finally, freight transportation generates GHG emissions, which are expected to increase as commerce flowing through the ports continues to grow. This "triple threat" disproportionately impacts low-income communities and communities of color that often live near freeways, ports, railyards, and other facilities that generate significant levels of localized diesel exhaust.[6]

Diesel-powered trucks, ships, trains, and equipment used to move vast quantities of freight in SCE territory impose serious health impacts on individuals and entire communities. Diesel particulate matter (diesel PM) is diesel exhaust emitted by diesel engines. Exposure to significant amounts of diesel PM emissions can lead to premature death and other devastating health impacts including asthma and respiratory impacts, pregnancy complications and adverse reproductive outcomes, cardiac and vascular impairments, and heightened cancer risk.[7] Diesel PM from exhaust is responsible for over two-thirds of the total air toxics health risks in Southern California, and a South Coast Air Quality Management District study on air toxics exposure confirms that "diesel particulate continues to be the dominant toxic air pollutant based on cancer risk."[8] Residential communities closest to the Ports of Los Angeles and Long Beach had increased cancer risks greater than 500 in one million.[9]

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[5] *Opening Brief of the Natural Resources Defense Council, the Coalition of California Utility Employees, and Plug In America on the Priority Review Transportation Electrification Proposals from San Diego Gas & Electric, Southern California Edison, and Pacific Gas & Electric*, A.17-01-020 et al., June 16, 2017, at 21.
[6] *Id*.
[7] *Id.* at 22.
[8] *Id.*
[9] *Id.*

The vehicles and equipment that move freight in and out of those ports and onto to warehouses clustered in the Inland Empire in SCE territory also emit NO_x, which is produced by the combustion of fuels.[10] NO_x contributes to the formation of both ozone (*i.e.* smog) and particulate matter pollution. Port operations significantly contribute to ozone levels in the South Coast air basin, which has some of the worst ozone pollution levels in the U.S. Emissions from diesel trucks alone account for 28 percent of all NO_x emissions from mobile sources in the air basin, and air regulators have confirmed that the Ports of Los Angeles and Long Beach are the "single largest fixed source of air pollution in Southern California."[11] Reducing this pollution will yield significant benefits. In just two southern California communities impacted by goods movement activities (Riverside and Long Beach), researchers estimated an annual health cost of $18 million for asthma and exacerbations of asthma due to freight-related air pollution.[12] Meeting the federal ozone and particulate matter standards in the South Coast air basin would result in health benefits valued at over $21 billion dollars.[13]

PG&E has no such comparable port complex and associated goods movement network in its territory. PG&E serves only a portion of the Port of Oakland. This is not to minimize the significant air pollution problems that persist in PG&E service territory, but to highlight the scope of the problem that is unique to SCE territory. Treating the two territories identically ignores these real-world differences. Were the Commission to use volume of containerized goods associated with the Port of Long Beach and the Port of Los Angeles relative to the Port of Oakland as a proxy to determine appropriate budgets for the respective utilities, SCE's budget would be nearly six times larger than PG&E's. However, given the utility programs also target transit and school buses that are not associated with goods movement, we suggest the Commission instead adopt a budget for SCE that is only 50 percent larger than that of PG&E, reflecting a vehicle mix that better represents the greater goods movement network in SCE territory, as shown in a revised version of the PD's "Table 7" included in Appendix A of these comments. We also recommend 100 percent EVSE rebates for transit agencies and school districts and an additional $5 million for rebates in both PG&E and SCE territory for up to 50

[10] *Id.*
[11] *Id.*
[12] *Id.* at 23.
[13] *Id*.

percent of the EVSE for non-transit and non-school district applicants in Disadvantaged Communities.

D. Consistent with Commission Precedent, Good Accounting Practices, and to Motivate Utilities to Pursue Transportation Electrification, PG&E and SCE Should Earn a Return on Utility Capital Investments

The PD concludes that utility ownership of make-ready infrastructure in SCE and PG&E's medium and heavy-duty programs will not have anti-competitive impacts, but nonetheless, modifies the programs to allow for customers to choose to assume ownership of infrastructure constructed and installed by utility crews. Below we replicate the two, seemingly conflicting sections of the PD:

> *In light of the objectives of SB 350 to accelerate the movement to an electrified transportation sector, we find that the modified programs will not unfairly compete with non-utility enterprises by allowing utility involvement in the installation of make-ready infrastructure both on the utility side and the customer side of the meter.*[14]

> *Customers should be allowed the choice of whether to own, operate, and maintain the make-ready infrastructure installed behind the customer meter; if the customer chooses ownership, the utility will install and transfer ownership of the customer side assets to the customer, treating these costs as an expense for ratemaking purposes, and the customer must commit to operate and maintain the facilities consistent with relevant national, state, and local electrical standards for their site.*[15]

There is nothing in the record calling for this modification, which seems to contradict the PD's conclusion that utility ownership of make-ready infrastructure will not have undue anti-competitive impacts. It is also not clear how the PD's requirement that "the customer must commit to operate and maintain the facilities" will be enforced. Presumably, the Commission or the utilities would specify as much in program terms, but would need to resort to suing non-compliant customers to enforce such provisions under contract law. That seemingly unlikely scenario is a far less effective form of oversight than Commission's direct regulatory authority over the utilities to ensure assets constructed and installed by utility crews remains in service for their useful life.

[14] PD at 81-82.
[15] *Id* at 88.

It is not clear how many customers will opt to assume ownership of the make-ready infrastructure constructed and installed by the utilities. This lack of certainty with respect to the ability to earn an authorized rate of return on capital investments made by the utility will undermine the motivation of the utilities to make such investments. The PD's insertion of the option for the customer to assume title to the infrastructure installed by the utilities, which does not appear to be justified based on the record, also counters the goals established by PU Code § 740.12 for utility "investments to accelerate widespread transportation to reduce dependence on petroleum, meet air quality standards, achieve the goals set forth in the Charge Ahead California Initiative, and reduce emissions of greenhouse gases to 40 percent below 1990 levels by 2030 and to 80 percent below 1990 levels by 2050." The scale required to meet those goals requires that utilities remain motivated to propose commensurate investments. The PD would undermine that motivation by making it uncertain they will be able to earn a return on capital investments.

The PD's unprecedented treatment of capital investments also contradicts PU Code § 701.1, as modified by SB 350, which establishes that "widespread transportation electrification" shall be "a principal goal of electric and natural gas utilities' resource planning and investment." Removing the certainty PG&E and SCE will earn their normal return on capital investments they make to accelerate widespread transportation electrification will not make such investments a "principal goal" of utility resource planning and investment going forward, but a second-tier investment opportunity that yields uncertain and possibly zero returns based on customer decisions beyond the control of the utilities. The PD's creation of an option for customers to assume ownership of infrastructure installed by utilities marks a significant departure from the Commission's previous decisions authorizing utility investments in make-ready infrastructure, which informed the design of all three applications being considered in this proceeding. Consistent with D. 16-01-023, D. 16-01-045, and D. 16-12-065, with the ratemaking treatment of other capital investments, and with PU Code §§ 701.1 and 740.12, SCE and PG&E should be able to earn an authorized rate of return on capital investments in electrical infrastructure constructed and installed by utility crews.

IV. SDG&E RESIDENTIAL CHARGING PROGRAM

A. The Grid Integrated Rate Option Should be Restored

The PD asserts the modified version of SDG&E's dynamic Grid Integrated Rate (GIR) (which lacks the demand charge included in the rate as originally proposed) is too complex for residential customers to understand and act upon in response: "While some early adopting customers may be savvy enough to monitor and respond to daily price signals, SDG&E has provided no evidence suggesting the average residential customer will respond to a different charging period every day based on day-ahead pricing signals."[16] We agree it is unrealistic to expect EV drivers to monitor hourly prices and respond accordingly. However, starting in 2014 with its employees and continuing to this day with its "Power Your Driver" multi-unit dwelling residential and workplace program, SDG&E has demonstrated that drivers do not have to monitor hourly prices to respond to a dynamic rate—they can "set-and-forget." Once basic preferences are provided, smartphone and web-based apps can optimize charging to maximize fuel cost savings, without any additional action required on the part of the customer. In sum, the PD's removal of the GIR option rests upon a false premise that burdensome manual intervention would be required. Real world experience with very similar dynamic rates shows otherwise. Customers who want to place their EV load on the dynamic rate should be allowed to do so, and should be armed with the technology to allow them to "set-and-forget."

The PD retains the modified SDG&E program requirement for the use of "smart" networked EVSE with sub-metering capabilities that will allow customers to place only their EV load on the dynamic rate. The Commission should leverage that investment and the smarts embedded in EVs themselves to allow for more dynamic vehicle charging that responds to dynamic grid conditions, benefiting all utility customers by avoiding peak transmission and distribution events and by integrating variable renewable generation. Consistent with PU Code § 740.12 (G) ["Deploying electric vehicles should assist in grid management, integrating generation from eligible renewable energy resources, and reducing fuel costs for vehicle drivers who charge in a manner consistent with electrical grid conditions."], the PD should be modified to allow for customers to choose the optional dynamic rate as proposed under the modified SDG&E program.

[16] PD at 47.

B. Consistent with PU Code § 701.1, to Ensure Successful Program Implementation, to Prevent Utilities from Focusing Exclusively on "Steel-in-the-Ground" Going Forward, and to Meet the Goals Established by SB 350 and SB 32, the Commission Should Provide a Performance-Based Earnings Opportunity

To its credit, the PD attempts to retain the turn-key implementation design of the modified SDG&E residential program from the customer perspective. Accordingly, the PD still tasks SDG&E with doing essentially everything it would have done under the terms of the modified proposal to ensure a smooth customer experience, including covering up-front expenses and managing the construction and installation of EVSE. However, the PD fails to reward SDG&E for the successful completion of that significant work. In sum, the PD tells SDG&E to do the same job, but that it will not earn anything significant for its efforts.

By removing nearly all the earnings opportunity, the PD removes SDG&E's motivation to do a good job, which could undermine successful program implementation. It also sends a clear message to all the investor-owned utilities in California (and many beyond):

> *If you want to earn a return on investments in transportation electrification, then avoid rebates or other, non-capital-intensive programs at all costs.*

This message will unnecessarily warp the next round of programs proposed pursuant to SB 350, will chill innovation, and will undermine the motivation of utilities to help the state meet the goals established by SB 350 and SB 32.

The lack of an earnings opportunity akin to the opportunity presented by traditional utility investments also contradicts PU Code § 701.1, as modified by SB 350, which establishes that "widespread transportation electrification" shall be "a principal goal of electric and natural gas utilities' resource planning and investment." If the Commission is to fulfill this legislative directive to make widespread transportation electrification a "principal goal of utility resource planning and investment," it should adopt a performance-based incentive mechanism that places the SDG&E program as modified by the PD on equal footing with capital investments.

1. <u>To Align Shareholder and Societal Incentives, the Commission Should Adopt a Performance-Based Incentive Mechanism Based on Measurable Metrics</u>

Consistent with PU Code § 701.1, to ensure SDG&E is motivated to successfully implement the program as modified by the PD, and to ensure future utility proposals consider

non-capital-intensive program designs, the Commission should adopt a simple performance-based incentive mechanism that includes the following three measurable metrics:

a. Is the program meeting its deployment goals?

This metric would be based on the successful deployment of charging stations over the five-year the program and the program's success in meeting its 25 percent Disadvantaged Community/low-income customer participation goal. Consistent with the rewards adopted for energy efficiency programs, we suggest a full reward be based upon a deployment rate equal to 75 percent of the 60,000-station target included in the PD. This metric would account for half the total proposed incentive, and be split between total deployment (75 percent of 50 percent or 37.5 percent of the total incentive) and the 25 percent Disadvantaged Community/low-income customer participation goal (25 percent of 50 percent or 12.5 percent of the total incentive).

b. Is the program delivering fuel cost savings that motivate EV purchases?

The Commission should avoid metrics that require solving for impossible counterfactuals (e.g., quantifying the number of EVs purchased that would not have been purchased but-for the SDG&E program). Multiple factors contribute to EV purchase decisions and it is impossible to attribute a single purchase decision to any single factor. However, the Commission can easily determine if SDG&E's program is delivering what numerous studies reveal is the single-largest factor that motivates EV purchase decisions — a desire to save money relative to gasoline.[17] Tracking the program's success in delivering the fuel cost savings that motivate EV purchases is also consistent with PU Code § 740.12 (H):

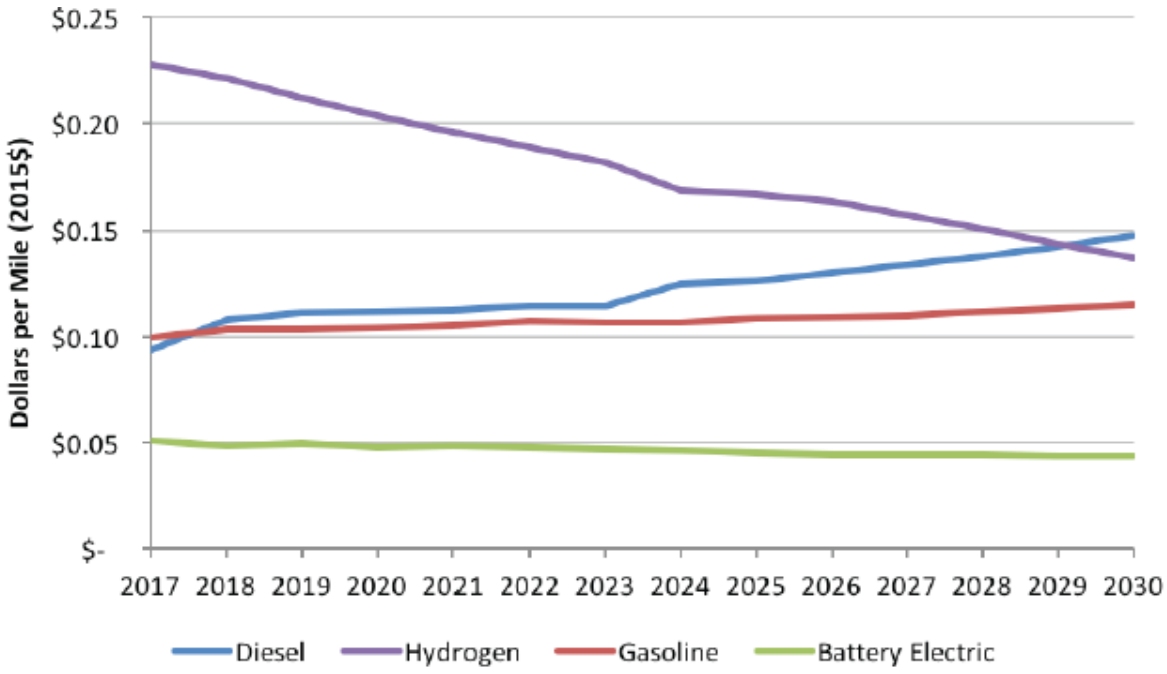
> *Deploying electric vehicle charging infrastructure should facilitate increased sales of electric vehicles by making charging easily accessible and should provide the opportunity to access electricity as a fuel that is cleaner and less costly than gasoline or other fossil fuels in public and private locations.*

The 2017 CEC Integrated Energy Policy Report projections for the fuel costs per mile for midsize cars is reproduced in Figure 1. SDG&E's program should deliver upon the fuel cost

[17] Exh. JP-3 at 10. Citing Center for Sustainable Energy, *California Plug-in Electric Vehicle Owner Survey Dashboard*; Steele, David E., J.D. Power and Associates, "Predicting Progress: What We Are Learning About Why People Buy and Do Not Buy EVs," Electric Drive Transportation Association 2013 Annual Meeting, Washington, D.C., June 11, 2013; Maritz Research, "Consumers' Thoughts, Attitudes, and Potential Acceptance of Electric Vehicles," National Research Council meeting, Washington, D.C., August 13, 2013.

savings represented by the approximately $0.05 per mile margin between gasoline and electricity represented by the green and red trend lines in Figure 1. This metric would account for a quarter of the proposed incentive.

Figure 1: IEPR Fuel Cost per Mile Trends for Light-Duty Vehicles (Midsize Cars), Mid Case



c. Is the program improving the utilization of the electric grid?

Consistent with PU Code § 740.8's definition of benefits to ratepayers in the form of "safer, more reliable, or less costly electrical service due to either improved use of the electric system or improved integration of renewable energy generation," SDG&E should be rewarded for improving the load factor during off-peak hours. We suggest using a metric SDG&E is already tracking and reporting in its Power Your Drive program (percent of kilowatt-hours consumed during the equivalent of off-peak hours). Given the PD maintains the modified proposal's requirement that only networked EVSE with sub-metering capabilities be qualified, this information should be readily available. This metric would account for a quarter of the proposed incentive.

We suggest combining the three metrics and awarding credit consistent with milestones such as those described in Table 1, allowing for extra-credit if SDG&E meets stretch goals, providing motivation for the utility to deliver performance above-and-beyond the goals established by the PD.

Table 1: Suggested Performance-Based Incentive

Credit Multiplier	Deployment (50% of incentive)		Fuel Cost Savings (25% of incentive)	Improved Use of the Electric System (25% of incentive)
	Total Deployment (37.5% of incentive)	**25% DAC/Low-Income Goal (12.5% of incentive)**		
Extra Credit (1.5X)	>60,000 stations	>15,000 stations	Average fuel cost <$0.03 per mile	>85% of kWh off-peak
Full Credit (1.0X)	60,000-40,000 stations	15,000-10,000 stations	Average fuel cost $0.03-$0.05 per mile	85-70% of kWh off-peak
Half Credit (0.5X)	40,000-20,000 stations	10,000-5,000 stations	Average fuel cost $0.05-$0.10 per mile	70-55% of kWh off-peak
No Credit (0.0X)	<20,000 stations	<5,000 stations	Average fuel cost >$0.10 per mile	<55% of kWh off-peak

To place rebates and capital investments on equal footing as the utilities contemplate their next round of SB 350 applications, full credit for a performance-based incentive should be equivalent to what SDG&E would have earned on the up-front rebates and EVSE installation had those been treated as capital investments (i.e. SDG&E's authorized weighted average cost of capital amortized over the depreciable lives of the installed EVSE). To avoid arbitrary losses or gains resulting from metrics that fall on either side of milestones like those described in Table 1, we suggest implementing a performance-based metric using a formula to avoid "cliffs," such as:

$$Credit\ Multiplier = 9 * 10^{-6}a + 1 * 10^{-5}b - 3.4c + 0.83d + 0.12$$

a = total stations deployed, b = number of DAC/low-income participants,
c = cost per mile ($/mile), d = percent of total kWh during off-peak hours
[Note: if variable falls in "No Credit" band, then variable = 0]

2. In the Alternative, the Commission Should Adopt a Percentage-Based Rate-of-Return Akin to What Was Proposed by the Utility Reform Network

If the Commission is not inclined to adopt a performance-based incentive such as the one described above, it should, at a minimum, incorporate a percentage-based earnings opportunity on up-front rebate and installation expenditures akin to what was proposed by The Utility Reform Network (TURN), which suggested the Commission use the mechanism adopted in D. 16-12-036 to provide utilities a reason to procure "Distributed Energy Resources:"

> *For purposes of the Incentive Pilot, we adopt a 4 percent pre-tax incentive, which will be applied to the annual payment for the distributed energy resources that are procured as an alternative to traditional distribution project investments.*[18]

However, a one-time four percent payment falls well short of creating the necessary parity with rate-based capital investments. To achieve that parity, the earnings opportunity should be equal to SDG&E's authorized weighted average cost of capital (currently 7.5 percent) applied to rebates and installations expenditures over their applicable depreciable lives. This is a cruder instrument than the performance-based incentive proposed above, but we offer it in the alternative because something needs to be done. If the PD is adopted as-is, it would contradict PU Code § 701.1, undermine the prospects for successful program implementation, send the utilities a clear message to avoid rebate programs like the plague going forward, and counter the prioritization of transportation electrification investments needed to meet the goals established by SB 350 and SB 32.

Conversely, if the Commission were to adopt the performance-based incentive mechanism recommended in these comments, it would once again demonstrate its leadership nationally, showing the country how innovative regulation can align shareholder and societal incentives to provide air quality and GHG benefits, consumer fuel cost savings, and improved use of the electric system. This would set a productive precedent that would inform future program design in California and beyond.

[18] D. 16-12-036 at 16.

V. CONCLUSION

With the modifications to the PD recommended in these comments, compiled in Appendix A, the Commission should authorize the standard review transportation electrification programs.

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Respectfully,

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Appendix A: Recommended Modifications to Proposed Decision

Body of Decision

P. 36: "~~As discussed in more detail in Section 3.5, we reject SDG&E's EV-Only GIR as overly complex. SDG&E fails to make a showing how residential customers will respond to a different charging period every day based on day-ahead pricing signals.~~" SDG&E should arm customers with the tools necessary to "set-and-forget" in response to the dynamic price signals of the Grid Integrated Rate.

P. 47: SDG&E's proposed Residential GIR is ~~denied Even with the removal of the GIC, the rate is still "highly complex and wholly unfamiliar to residential customers."219 While some early adopting customers may be savvy enough to monitor and respond to daily price signals, SDG&E has provided no evidence suggesting the average residential customer will respond to a different charging period every day based on day-ahead pricing signals~~ approved, and SDG&E should arm its customers with the tools necessary to "set-and-forget" in response to the dynamic price signals.

P. 77: "We find it reasonable for PG&E and SCE to offer rebates on EVSE for sites supporting transit and school buses but not generally not above 50 percent for customers targeted by these programs that happen to be located in DACs. ~~Each utility should set the rebate levels for transit and school bus EVSE in consultation with its PAC, not to exceed 20 percent of the cost of the EVSE~~. Regarding DACs, TURN notes it is not clear these site hosts require additional subsidy. "As TURN has pointed out in the past, the fact that a site is located in a 'disadvantaged community' does not mean the commercial customer itself is financially disadvantaged. TURN expects that large corporations will be a large recipient of the subsidies at hand; many likely may have distribution centers, warehouses, etc. in disadvantaged communities." Providing rebates for publicly-accessible and residential charging equipment in DACs serves residents in those communities whose air quality and socioeconomic status determined the DAC designation. In contrast, providing relatively small rebates (the average cost of chargers for sectors other than transit is between $5,000 and $15,000) to large commercial customers that happen to be located in a DAC may not ~~is unlikely to~~ influence their decision to pursue transportation electrification. However, the record demonstrates that there are smaller corporations and governmental agencies that operate in DACs, and there the incremental costs of chargers could minimize the amount of vehicles they could pursue zero emissions. Additionally, the EV charging at these commercial sites would be exclusively for fleet use, and not available to the broader public. While the emissions reductions benefits would be broad, the impact on incentivizing additional EV adoption would be limited to the sites receiving the infrastructure. However, by not funding 100 percent of the rebates for EVSE in DACs, we expect the utilities to be able to support make-ready infrastructure at additional sites ~~least another 90 sites~~, increasing the impact of the programs. We find that it is reasonable to provide up to a 50 percent rebate for EVSE in DACs up to $5 million for PG&E and SCE territory."

Appendix A: Recommended Modifications to Proposed Decision

P. 85 [Replace "Table 7" with this revised version]

Table 7. CPUC Approved Budget Assumption for SCE and PG&E Medium- and Heavy-Duty Programs

Sector	Estimated Cost Per Site	PG&E # of Sites	SCE # of Sites	PG&E Budget	SCE Budget
Forklifts	$132,613	100	200	$13,261,296	$26,522,600
TSE	$99,038	5	10	$495,189	$990,380
TRU	$185,539	89	200	$16,512,988	$37,107,800
Port Cargo Trucks	$334,565	6	18	$2,007,388	$6,022,170
Transit Buses	$341,071	80	80	$27,285,648	$27,285,648
School Bus	$146,730	45	45	$6,602,829	$6,602,829
Airport GSE	$133,913	20	20	$2,678,269	$2,678,269
Medium-Duty Vehicles	$148,097	400	400	$59,238,613	$59,238,613
Other Heavy-Duty Vehicles	$341,071	60	180	$20,464,233	$61,392,780
Infrastructure Subtotal		***805***	***1,153***	***$148,546,454***	***$227,841,089***
Program Management				$14,854,645	$22,784,109
Contingency				$14,854,645	$22,784,109
PG&E Education				$5,941,858	
Rebates				$27,500,000	$32,000,000
Non Infrastructure Subtotal				***$63,151,149***	***$77,568,218***
Program Total				**$211,697,603**	**$305,409,307**

P. 85-86: "Utility investments in make-ready infrastructure to serve the medium- and heavy-duty transportation sector within the adopted budget will be considered *per se* reasonable provided:

- ~~a minimum of 700 make-ready installations are fully contracted for by 2024 (by each utility) and~~ a minimum of 6,500 additional vehicles are electrified that are directly

attributable to the authorized program (in each service territory) achieved by site hosts procuring at least two EVs or converting at least two diesel fueled vehicles to electric;

- a minimum of 15 percent of the infrastructure budget serves transit agencies (in each service territory);
- a maximum of 10 percent of the infrastructure budget serves forklifts (in each service territory);
- a minimum of 40 percent of the infrastructure budget results in installations in DACs in SCE's territory;
- a minimum of 25 percent of the infrastructure budget results in installations in DACs in PG&E's territory;
- rebate levels for transit, ~~and~~ school bus, and non-transit and non-school district applicants EVSE are established in consultation with the utility's respective PAC. ~~Rebate levels should not exceed 20 percent of the charger cost;~~ Rebate levels for non-transit and non-school district applicants should not exceed 50% of the charger cost; and
- a maximum of 10 percent of the infrastructure budget is spent on program administration (by each utility).

P. 87: "For market sectors where there is no standard charging equipment, SCE proposes that customers could participate in the program, but would be responsible for the full cost of buying and installing the proprietary or made-to-order EVSE ~~and make-ready~~."

P. 88: The requirement that "Customers should be allowed the choice of whether to own, operate, and maintain the make-ready infrastructure installed behind the customer meter; if the customer chooses ownership, the utility will install and transfer ownership of the customer side assets to the customer, treating these costs as an expense for ratemaking purposes, and the customer must commit to operate and maintain the facilities consistent with relevant national, state, and local electrical standards for their site" should be eliminated. It should be replaced with the following: "*The utility should own, operate, and maintain the make-ready infrastructure and be able to earn a normal return on infrastructure investment."*

P. 95: Rather than adopting nearly identical budgets for SCE's and PG&E's medium and heavy-duty programs (per Table 7), the budget of SCE's program should be increased to $305 million to reflect the larger volume of freight and goods movement and the disproportionately poor air quality in their service territory.

P. 105: "In this decision, we direct the utilities to ~~again~~ contribute ~~four~~ two percent of their total approved SRP budgets to support this evaluation effort and extend it to the standard review projects' results."

Appendix A: Recommended Modifications to Proposed Decision

Findings of Fact

P. 113: "58. SCE's proposal to provide rebates to cover 100 percent of the base cost of EVSE for all of the sites participating in its program is excessive. Thus, we recommend 100 percent EVSE rebates for transit agencies and school districts and an additional $5 million for rebates in both PG&E and SCE territory for up to 50 percent of the EVSE for non-transit and non-school district applicants in Disadvantaged Communities."

Conclusions of Law

P. 118: "32. Making participants responsible for the full cost of buying and installing the proprietary or made-to-order EVSE ~~and make-ready~~ is an appropriate safeguard of ratepayer funds because proprietary or made-to-order technologies are generally not scalable and may result in stranded assets if the company that manufactures them goes out of business or decides to change their technology significantly.:

P. 118: "33. Offering a 100 percent rebate for the EVSE purchase to all participants, as proposed by SCE, is not scalable, and it is unclear whether there would be any benefit for any ratepayers other than the participating customers that receive the rebates, and for that reason we limit 100 percent rebates to the transit bus and school bus sectors. SCE and PG&E may provide up to 50 percent of the EVSE for non-transit and non-school district applicants in Disadvantaged Communities."

Ordering Paragraphs

The Commission should add the following ordering paragraph: "*Consistent with PU Code § 701.1, to ensure successful program implementation, to prevent utilities from focusing exclusively on maximizing infrastructure expenses going forward, and to meet the goals established by SB 350 and SB 32, the Commission should adopt a performance-based incentive mechanism for SDG&E's residential charging program. This would set a productive precedent in California and beyond for utility investments to accelerate transportation electrification."*